

CISZAWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Heat-resisting alloys. Techn lotn 17 no.6:2 of cover,3-4 of
cover S '62.

CISZEWSKI, A., mgr. inz.; RADOMSKI, T., mgr. inz.

Materials used in aircraft construction. Pt. 2a. Heat resisting steel. Techn lotn 17 no.6:2, 3-4 of cover Je '62.

CISZEWSKI, Andrzej, mgr. inz.; RADOMSKI, Tadeusz, mgr. inz.

Materials used in the construction of aircraft. Pt. 2.
Techn lotn 17 no.7:2, 3-4 of cover J1 '62.

RADOMSKI, Tadeusz, mgr inż.; CISZEWSKI, Andrzej, mgr inż.

Soft soldering and soldering tools. Przegl spaw 15 no.1:
19-22 Ja '63.

1. Politechnika, Warszawa.

CISZEWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Materials used in aircraft constructions. Pt. 3. Techn lotn 18
no.4/5:2,3,4 of cover Ap-May '63.

WILKINSKI, R., Lt. Col.; RADOMSKI, T., Major 1st.

Materials used in aircraft design. Pt. 4. Techn lotn 18
no. 2, 3, 4 of cover Ja '63.

CISZEWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Heat-resisting cobalt-based alloys. ~~2~~cm lotn 18 no.9:3 of
cover, 4 of cover. S'63.

CISZEWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Materials used in aircraft designs. Pt. 5. Techn lotn 18 no.10:
2, 3, 4 of cover 0 '63.

GISZEWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Materials used in aviation designing; alloys with titanium
as main component. Techn lotn 18 no.12: 2 of cover, 3 of
cover, 4 of cover D'63.

CISZEWSKI, A., mgr inz.; RADOMSKI, T., mgr inz.

Columbium and molybdenum alloys. Techn lotn 19 no. 1:
2 of cover, 3 of cover, 4 of cover Ja '64.

GISZKICKI, Andrzej, Mgr inz.; RABOMSKI, Tadeusz, Mgr inz.

Materials used in aeronautic constructions. Pt.7. Techn 10m
19 no.3:2 of cover, 3-4 of cover Mr '64

GISZEWSKI, Andrzej, mgr inż.; RADOMSKI, Tadeusz, mgr inż.

Aluminum and its alloys for construction. Techn lotn
19 no. 4: 2 of cover, 3 of cover-4 of cover Ap '64.

CISZIMSKI, Andrzej, mgr inz.; RADOMSKI, Tadeusz, mgr inz.

Materials used in aeronautic design. Pt. 9. Techn lotn
19 no. 5: 2 of cover, 3 of cover, 4 of cover My '64.

CISALASKI, Andrzej, mgr inż.; RADONSKI, Tadeusz, mgr inż.

Materials used in aeronautical constructions. Pt. 10. Techn lotn
19 no.10/11:2, 3-4 of cover. O-N '64.

CISZEWSKI, Andrzej, mgr inż.; RADOMSKI, Tadeusz, mgr inż.

Material used in aeronautic construction. 4.12. Techn
lotn 20 no.1:2 of cover, 3-4 of cover Ja 'c'

Uncl.

Removal of sulfur from gases by the use of sodium or ammonium thiocarbonates. Pt. 1.
p. 291.

PRZEMISL CHEMICZNY. Ministerstwo Przemyslu Chemicznego i Stoarzyszenie Naukowo-
techniczne Inzynierow i Technikow Przemyslu Chemicznego. Warszawa, Poland, Vol. 38,
no. 4, Apr. 1959.

Monthly list of East European Accessions (EAMI), LC, Vol. 3, No. 9, September, 1959.
Uncl.

CIESIELSKI, Bogdan; JUSTAT, Antoni; RADOMSKI, Wieslaw

Automatic conductometer for indicating break down points of ionite columns. Energetyka przem 9 no.10:345-346 '61.

1. Katedra Technologii Chemicznej Nieorganicznej Politechniki Lodzkiej.

JUSTAT, Antoni; RADOMSKI, Wiesloplaw

Studies on the influence of the geometry of the deposit upon the utilization rate of the ion exchange column. Chemia stosow 6 no.3: 397-407 '62.

1. Katedra Technologii Chemicznej Nieorganicznej, Politechnika, Lodz.

Hammer, Applied, Inc.

Machines for plastic machining of metals in the general course of
developing automation in the machine industry. Mechanik of No. 11
301-304 1964.

1. Central Design Office of Presses and Hammers, Warsaw.

RADOMSKI, Z.

"Central Technical Organization cooperates with the Mill Association of the Olsztyn District," *Gospodarka Zbozowa*, Warszawa, Vol 5, No 5, May 1954, p. 30.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

RADOMSKI, Z.

The organoleptic evaluation in the grain and milling industry.
B. 17. GOSPODARKA ZBOZOWA. (Polskie Wydawnictwa Gospodarcze)
Warszawa. Vol. 6, no. 10, Oct. 1955.

So. East European Accessions List. Vol. 5, no. 1, Jan. 1956.

RAJSTWIE, 1.

Care for the future cadres of millers. p. 23. GOSPODARNA
ZBOZOWA. Vol. 7, No. 4, Apr. 1956. Warszawa.

East European Accessions List (EEAL) Library of Congress
Vol. 5, No. 11, August 1956.

Radomskiy, A.

27-9-10/30

AUTHOR: Radomskiy, A.. Deputy-Chief of Section for Schools of the Ukrainian Republic Administration of Labor Reserves

TITLE: Inter-Republic Builders' Seminar (Mezhrespublikanskiy seminar stroiteley)

PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1957, Nr. 9(148) pp 16-17 (USSR)

ABSTRACT: The author stresses the necessity for highly qualified cadres of builders and points out that the building schools have contributed considerably to improve training. He states, that during 1956 the building schools of the Ukraine organized 113 workshops with 2,860 working places, 137 additional class and pedagogical rooms. Creative initiative in raising the qualifications of the personnel was displayed by the building schools Nr. 3, 4, 9 of the Dnepropetrovsk, Nr. 10 of the Kryv. Nr. 1, 4, 7 of the Khar'kov and Nr. 52 of the Stalino Oblast's Administrations of Labor Reserves (Oblastnoye upravleniye trudovykh rezervov). He mentions a number of other administrations which established training workshops or use modern machinery and building devices, whereas other building schools

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Inter-Republic Builders' Seminar

27-9-10/30

show serious shortcomings. To eliminate these, the Inter-Republic Seminar of Building School Workers was arranged by the Ukrainian Administration of Labor Reserves at Dnepropetrovsk (Ukrainskoye upravleniye trudovykh rezervov v Dnepropetrovsk). It was attended by the directors and senior master craftsmen of building schools of the Ukraine and Allied Republics, and by workers of individual local administrations. On the first day, M.M. Puzanov, Deputy Chief of the Ukrainian Republican Administration of Labor Reserves, reported on the "Characteristic Deficiencies in the Instruction of Students and Ways to Eliminate Them". Afterwards Potryasov and Ryn'kov, workers of the Dnepropetrovsk Building Institute (Dnepropetrovskiy stroitel'nyy institut) delivered two lectures: "The Industrialization of Building Work during the Sixth 5-Year Plan" and "The Technical Progress in Construction and in Building Technique". Subsequently the participants visited the training workshops and class rooms of the advanced Building Schools Nr. 3, 4 and 9 of Dnepropetrovsk and made an excursion to the branch establishments of the Building Trust Nr. 17 (Stroitel'nyy trest Nr. 17). The participants heard 12 lectures by directors and senior craftsmen on their experience in training bricklayers, plasterers and carpenters. B.B. Blagman, Director of Building

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Inter-Republic Builders' Seminar

27-9-10/30

Nr. 9 (Stroitel'naya shkola Nr. 9) of Dnepropetrovsk submitted information on the organization of educational work. A.P. Lamm, Director of Building School Nr. 3 (Stroitel'naya shkola Nr. 3) of Dnepropetrovsk spoke on work to create a material-instruction base. Other reports dealt with the linking up of theoretical and practical training and student instruction at the building sites. The training workshops of School Nr. 9 were built with the help of the base-enterprise - the Trust "Dneprovskpromstroy" (Dneprovskpromstroy Trest). Further, the article contains information on practical training methods and the activity of technical circles. In order to improve practical training lessons, the Methodical Commission of Building School Nr. 2 at Khar'kov (Metodicheskaya komissiya stroitel'noy shkoly Nr. 2, Khar'kov), with the assistance of the Khar'kov Oblast Methodical Section (Khar'kovskiy oblastnoy metodicheskoy kabinet), prepared instruction charts for conducting individual exercises. In conclusion the author mentions a report of N.S. Yampol'skiy, Director of Building School Nr. 40 of Voroshilovgrad Oblast (Stroitel'naya shkola Nr. 40 Voroshilovgradskoy oblasti), on experiences gained from letting students build an object independently. The school is on good business terms with its base enterprise

Card 3/4

RADOMSKIY, A.

Improving the hoist brake control of the K-32 truck crane.
Avt.transp. 35 no.9:31 S '57. (MIRA 10:10)
(Hoisting machinery)

RADOMSKIY, M.M.; SEMENYUK, V.A.

Eliminating shortcomings of the rotary diffusion unit. Sakh.
prom. 33 no.6:71 Je '59. (MIRA 12:8)

1. Samborskiy sakharnyy zavod.
(Sambor--Sugar machinery)

RADOMSKIY, M.M.

Achievements. Sakh.prom. 34 no.10:1-2 0 '60.

(MIRA 13:10)

1. Samborskiy sakharney zavod.

(Sugar industry)

(Socialist competition)

KOLESNIKOV, I.A.; RADOMSKIY, M.M.

Reconstruction of the Sambor Sugar Factory. Sakh. prom. 35
no. 1:12-14 Ja '61. (MIRA 14:1)

1. Samborskiy sakharney zavod.
(Sambor---Sugar industry)

CHERNOMIR A. V. ... 1964 ... 1965, 1966, 1967.

Equipped with a magnetic clamp for milling and grinding
machines. Mashinostroenie no. 3460 My-Je '65. (MIRA 18:6)

KUKHTO, N; KARZOV, V., inzh. (Gatchina, Leningradskoy oblasti); RADOMSKIY, R.; SHCHERBINA, M.

Innovator contribution to industry. From.koop. 14 no.8:18 ag
'60. (MIRA 13:8)

1. Tekhnoruk arteli "Rodina" g.Bobruysk (for Kukhto). 2. Tekhnoruk
arteli "Oeremoga," g.Chernovtsy (for Radomskiy). 3. Tekhnoruk
arteli "Raznoprom," g.Armavir (for Shcherbina).
(Technological innovations)

1. 3. 31. 11, 3.

Early Secretary. Grows in New Volkhoz towns. Cherkasskiy r-n, Kiyevskaya o.,
Kara'inskaya SSR.

Soviet Source: 1: Pravda Ukrainy (Truth of Ukraine); 9 Feb. '51

Assimilated in USIP "Treasure Island", on file in Library of Congress, Air
Information Division, Report No. 97572

YERMAKOV, B.F., inzhener; RADOMSKIY, V.P., tekhnik.

Adjustment of chain grates for anthracite. Energetik 4 no.6:14-15
Je '56. (MLBA 9:8)

(Boilers)

YERMAKOV, B.F., inzhener; RADOMSKIY, V.P.

Using anthracite dust. Masl.-zhir.prom.22 no.6:30 '56. (MLRA 9:10)

1.Vinitskiy Masloboyne-zhirevey kombinat.
(Coal, Pulverized) (Boilers)

ZELYANSKIY, Grigoriy Ivanovich; OSTROVSKIY, Yakov Moiseyevich;
RADOMSKIY, Yevgeniy Aleksandrovich; SHUKHER, S.M., red.;
BORUNOV, N.I., tekhn. red.

[Modernization of boiler units] Modernizatsiia kotel'nykh agre-
gatorov. Moskva, Gosenergoizdat. 1962. 159 p. (MIRA 15:5)
(Boilers)

RADOMSZKY, Arpad

A Roman sepulcher. Elet tud 16 no.34:1085-1086 20 Ag '61.

RADOMYSEL'SKIY, A.G.; SHPINETSKIY, R.V., fel'dsher narkologicheskogo kabineta
(g. Khmel'nitskiy)

Treatment of chronic alcoholics in our dispensary. Fel'd. i akush.
25 no.11: 54-56 N '60. (MIRA 13:11)
(ALCOHOLISM)

ZHOMYLA, L.P.; RADOMSKAYA, L.

Characteristics of hardening process of the ... (see also, Serosh.
mat. 4 no.415-75 07-08 '62. (NCR 18:8)

1. Institut problem materialovedeniya, ...

RADOMYSEL'SKIY, I.D.; SHCHERBAN', N.I.

Use of glass in powder metallurgy; review. Porosh.met. 5
no.12:83-92 D '65. (GIRA 19:1)

1. Institut problem materialovedeniya AN UkrSSR. Submitted
March 28, 1965.

SOV/137-57-10-19006

Translation from Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 81 (USSR)

AUTHORS Frantsevich, I.N., Fedorchenko, I.M., Radomysel'skiy, I.D.,
Barabash, M.L., Ol'shanskiy, M.A., Nichiporenko, O.S.

TITLE Wear-resistant Iron Powder Contact Inserts for Trolleybuses
(Iznosostoykiye metallokeramicheskiye zheleznyye tokopri-
yemnyye vstavki dlya trolleybusov)

PERIODICAL V sb.: Povysheniye iznosostoykosti i sroka sluzhby mashin.
Kiyev - Moscow, Mashgiz, 1956, pp 304-312

ABSTRACT: A description is presented of iron-and-graphite cermet con-
tact inserts (ICI) for trolleybuses. The ICI are made from a
mixture of Fe and graphite (G) powders compacted cold and
then sintered in a shielding or inert atmosphere. The G acts
as lubricant between the rubbing surfaces of the ICI and the
contact wire. The ICI operate at current densities of up to
60 amps/cm², 500 v potential, and a pressure of 2-3 kg/cm².
It is pointed out that ICI undergoes less wear than does a cop-
per-and-graphite substance, but that the trolley contact wires
are exposed to greater wear. It is found that the G content has
a pronounced effect on the wear resistance of the ICI.

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SOV/137-57-10-19006

Wear-resistant Iron Powder Contact Inserts for Trolleybuses

Minimum wear is shown by ICI when the cermet contains 8% G. There is a sharp drop in ultimate strength (by more than half) as G content rises from 2 to 8%. After sintering at 870°C the structure of the material consists of ferrite and G. Sintering at 950°C causes a harder pearlite to form. As a result of the investigation, a material was adopted consisting of Fe powder derived from reduction of scale as a base, with the addition of 5.6 and 8% G. 2% Cu is added to some compositions. Sintering is run for 4 hours at 920 and 950°C. The porosity of the ICI is 9-15%. The work of the Kiyev trolleybus system showed the use of ICI to be entirely satisfactory. The life of ICI is 2.36 times as great as that of copper-and-graphite inserts, and its cost is 63 percent lower. The Kiyev Street Railway Plant im. F. E. Dzerzhinskiy has developed the process of manufacturing ICI, with sintering in boxes.

S.Ts.

Card 2/2

SAMSONOV, G.V. [Samsonov, H.V.], doktor tekhn. nauk; RADOMYSEL'SKIY, I.D.
[Radomysel's'kyi, I.D.], kand. tekhn. nauk

Conference on problems of powder metallurgy. Visnyk AN URSR 30
no.3:71-72 Mr '59. (MIRA 12:6)
(Powder metallurgy—Congresses)

SOV/170-59-6-16/20

15(2)

AUTHORS: Artamonov, A.Ya, Radomysel'skiy, I.D., Troshchenko, V.T.

TITLE: Investigation of the Effect of Electromechanical Treatment on the Strength of Metal Ceramic Materials on a Silicon Carbide Base

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 6, pp 100-103 (USSR)

ABSTRACT: The ordinary mechanical working of materials based on silicon carbide is rather difficult in view of their considerable hardness. Therefore, the authors studied a possibility of applying electromechanical working and its effect on the strength of metal ceramic materials. The specimens were prepared by the powder metallurgy method with impregnation and divided into 6 portions, one of which was left without working and the other five were subjected to electromechanical working with different degrees of fineness on a special installation. The effect of treatment on the strength was investigated by statical bending with a concentrated force, and the results are presented in Table 1 and Figure 3. It is shown that the working affects the strength of the silicon carbide specimens considerably, and the latter

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SOV/170-59-6-16/20

Investigation of the Effect of Electromechanical Treatment on the Strength of
Metal Ceramic Materials on a Silicon Carbide Base

can be increased by as much as 55% as compared with the specimens
not subjected to working.

There are: 1 photo, 1 diagram, 1 graph, 1 table and 1 American
reference.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov, AN USSR (Institute
of Metal Ceramics and Special Alloys of the AS UkrSSR), Kiyev.

Card 2/2

FRANKESEVICH, I.N.; ADOMENUSKAYA, I.D.

Obtaining & reducing atmosphere from natural gas for ceramic
metal processes. Vop. por. et. i. tekhn. nat. no. 7:130-134
'59. (MIRA 14:1)

(Ceramic materials) (Reducing agents)

S/137/62/000/001/065/237
A060/A101

AUTHORS: Radomysel'skiy, I. D., Dorf, Z. P.

TITLE: The economic efficiency of the introduction of metallo-ceramic articles

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 42, abstract 16320 ("Poroshk. metallurgiya", 1961, No. 1, 92-98, English summary)

TEXT: The authors cite the results of the development of the metallo-ceramic article requirements at 266 industrial enterprises of the Ukraine. The total requirements constituted 20.2 thousand tons in 1960 and will attain 36.4 thousand tons by 1965. About 90% of the total requirement is in the domain of metallo-ceramic materials for general machine construction (structural and anti-friction articles). The nomenclature of all articles includes 7,699 denominations with a yearly output of 161.6 million pieces with average weight ~125 g. The economic efficiency of the introduction of metallo-ceramic articles is determined by saving of heavy and light metals, by freeing of machinery and labor, by economies in the daily production. The nominal yearly saving caused by the introduction of articles fabricated by the methods of powder metallurgy

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The economic efficiency ...

constitutes ~ 21 million rubles (according to the new prices); there is also a saving of 40,000 tons of metal, a freeing of 3,695 workers and 1,865 metal-cutting machines. Profitableness of the capital investment required by the construction of a plant for producing metallo-ceramic articles will be attained in 1.5 - 2 years.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/012/055/149
A006/A101

AUTHORS: Radomysel'skiy, I. D., Kindysheva, V. S.

TITLE: Report on the Second Plenary Session of the Coordination Council on powder metallurgy

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 42, abstract 123299 ("Poroshk, metallurgiya", 1961/no. 2, 117 - 119)

TEXT: Information is given on the Plenary Session of the Coordination Council on powder metallurgy (Kiyev, November 29 - December 1, 1960). The Conference heard an accounting report by I. N. Frantsevich, Academician of AS UkrSSR and chairman of the Council, and a number of reports on: safety techniques in cermet production; the development of powder metallurgy in the RSFSR and other Republics; the fulfilling of directives issued by the government on the development of powder metallurgy; the GOST project concerning powder metals, and results of determining the industrial demand of cermet articles and refractory compounds. The Plenary Session studied organization problems and approved 10 sections of the Council and their management. ✓

R. Andriyevskiy

[Abstracter's note: Complete translation]

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S/137/62/000/001/068/237
A060/A101

AUTHORS: Radomysel'skiy, I. D., Kutnyak, V. A., Andreyeva, N. V.

TITLE: Automatic gas combination furnace for sintering of metallo-ceramic articles and conversion of natural gas

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 42, abstract 16324 ("Poroshk. metallurgiya", 1961, no. 3, 91-99, English summary)

TEXT: The authors describe the design of a furnace for sintering of metallo-ceramic articles in an environment of gas under conversion. The furnace is heated by natural gas, burned in flameless burners, and is designed for the use of carbofraxine muffles. The furnace is equipped with a device for obtaining converted natural gas from a steam-gas mixture $\text{CH}_4 - \text{H}_2\text{O}$ (1:1). The furnace productivity is up to 15 kg/h, working temperature - up to $1,200^\circ\text{C}$. The furnace operation is automated, the trays with the parts are fed into the furnace by means of hydraulic pushers. The blowing through of the loading and the unloading chambers by neutral gases is provided for. The sintering furnace has two zones of temperature regulation.

R. Andriyevskiy

[Abstracter's note: Complete translation]
Card 1/1

S/137/62/000/001/066/237
A060/A101

AUTHORS: Dorf, Z. P., Klimenko, V. N., Radomysel'skiy, I. D., Shub, I. Ye.

TITLE: The requirements of the Leningrad sovnarkhoz industry for metallo-ceramic articles, and the economic efficiency of their introduction

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 42, abstract 10321 ("Poroshk. metallurgiya", 1961, no. 3, 100-110, English summary)

TEXT: An inspection of 100 enterprises of the Leningrad sovnarkhoz has brought to light the requirements for metallo-ceramic articles numbering 44.3 million pieces with total weight 2,746 tons (1,109 denominations). Of all the forms of metallo-ceramic articles the share of structural materials is ~66%, magnetic - ~24%, antifriction - ~6%. The requirements for metallo-ceramic articles for 1965, constituting 4,915 tons, is also determined. Recommendations are cited on the organization of the metallo-ceramic production at various Leningrad enterprises. The economic aspect of the industrial application of articles fabricated by the methods of powder metallurgy is analyzed. The nominal yearly saving on account of the introduction of powder materials constitutes >3 million rubles. In Leningrad the introduction of every thousand tons of

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The requirements of the Leningrad ...

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A060/A101

of metallo-ceramic articles is accompanied by a saving of 1.6 million rubles,
2.6 thousand tons of metal, and 260 workers and 152 metal cutting machines are
freed.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/003/071/191
A006/A101

152400
AUTHORS: Radomysel'skiy, I D., Kuzenkova, M.A.

TITLE: Investigation of the properties of structural cermet materials manufactured from iron and cast-iron powder mixtures

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 43, abstract 3G303 ("Poroshk. metallurgiya", 1961, no. 4, 56 - 62, English summary)

TEXT: Structural cermet materials are widely used; therefore it is important to develop sufficiently effective methods of manufacturing these materials. The authors investigated conditions of obtaining compositions from iron and cast-iron powder mixtures. The latter was prepared by grinding cast-iron sheets in a vortex mill. The authors studied the effect of various amounts of cast-iron powders on the pressability and changes in dimensions during sintering. To obtain articles with 7 g/cm^3 specific weight, the pressure of the first pressing should be $4 - 6 \text{ t/cm}^2$; and $8 - 9 \text{ t/cm}^2$ of the second pressing. Optimum temperature of first pressing is 6500°C and 12000°C of the second pressing. Mixtures with $20 - 30\%$ cast-iron powder pressed and sintered under the aforementioned conditions, assure the following values: σ_b about 47 kg/mm^2 , R_c about 50, and δ 1 -

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A006/A101

Investigation of the

- 1.5%. The specimens were water quenched from 840°C.

R. Andriyevskiy

[Abstracter's note: Complete translation]

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30515

S/123/62/000/011/008/011
A052/A101

15.2400
AUTHORS: Teodorovich, O. K., Radomysel'skiy, I. D.

TITLE: Investigation of properties of sintered iron-brass compositions

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 11, 1962, 39, abstract
11B230 ("Poroshk. metallurgiya", no. 4, 1961, 63 - 69, English
summary)

TEXT: A detailed exposition of composition, technology of production and mechanical properties of various iron-brass compositions. It is shown that compositions containing 20% of Л-59 (L-59) brass ($\sigma_b = 40.2 \text{ kg/mm}^2$, $\psi = 38\%$ and $\epsilon = 8\%$) have optimum strength characteristics. For manufacturing iron-brass composition products, the products ready by the shape and dimensions are pressed out of iron powder, iron-copper powder alloy with 8% copper or out of iron powder with a graphite admixture. The sintering of pressings is performed at 1,100 - 1,150°C in a reducing atmosphere during 3 hours. To impregnate the pressings with molten brass they are packed together with a brass chip briquet in a charge of ground fire clay or put into a graphite mold and then placed into a furnace

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A052/A101

Investigation of...

heated to 1,000°C. The time of impregnation depends on the dimensions of pressings and the amount of charge. The impregnated pressings are subjected to water hardening at 800 - 850°C and to 4 hour tempering at 350 - 400°C. The main hardening agent at the heat treatment of the compositions is the copper contained in a diffused state in the iron skeleton. The diffusion of copper in iron takes place in the process of formation of the compositions during impregnation. After the heat treatment the copper separates out of the supersaturated solution in the form of an ageing admixture hardening the composition. In view of this the strength characteristics of the composition are secured by introducing Cu in the iron skeleton of the composition prior to impregnation, that is by pressing the porous blank of iron-copper powder alloy with 8% Cu. At the impregnation temperature the solution has the maximum Cu content, and its uniform distribution over the whole section of the skeleton of the composition is achieved. The developed technique of manufacturing the compositions makes it possible to produce complex form objects with the minimum labor costs for machining. These products are practically poreless and have high strength characteristics. As a raw material for products of the compositions the waste of stamping, rolling and engineering shops can be used. There are 4 references.

E. Spivak

[Abstracter's note: Complete translation]

Card 2/2

37511

S/123/62/000/011/007/011

A052/A101

15.240
AUTHORS: Artamonov, A. Ya., Radomysel'skiy, I. D., Troshchenko, V. T.

TITLE: The effect of machining on the strength of brittle sintered materials

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 11, 1962, 39, abstract 11B227 ("Poroshk. metallurgiya, no. 5, 1961, 65 - 68, English summary)

TEXT: The effect of machining on the strength of sintered materials on chromium carbide and silicon carbide base was investigated. Sintered materials on silicon carbide base were tested for strength prior to machining (after electro-mechanical processing), whereby a surface layer 0.5 - 0.6 mm thick was removed, and also after applying to the machined surface a silicon carbide layer. Sintered materials on chromium carbide base (9.4% C, 71.35% Cr, 15.3% Ni and 3.95% others) were subjected to static (pure bending) and fatigue tests prior to machining immediately after sintering, abrasive disk grinding and electromechanical processing. It is established that the electromechanical processing as well as the silicon impregnation process increase the static strength of sintered mate-

Card 1/2

The effect of machining on the strength of...

S/123/62/000/011/007/011
A052/A101

rials on silicon carbide base prepared by the method of impregnation. Electro-mechanical processing of sintered materials on chromium carbide base does not reduce the static and fatigue strength, whereas abrasive grinding even under soft conditions reduces considerably both strength characteristics. Such a reduction of strength is caused by the formation in the process of grinding of a large number of superficial microcracks 5 - 10 mm wide (?) and up to 50 mm deep (?). The formation of these cracks is connected obviously with the heating of local surface sections which can produce considerable thermal stresses. It is pointed out that the strength of ground samples is similar to that of the samples with stress concentrators. The microcracks weaken the samples in the same way as the stress concentrators with a concentration factor of 3. The sensitivity to the stress concentration of sintered materials on chromium carbide base is 0.4. There are 5 references and 2 figures. ✓

E. Spivak

[Abstracter's note: Complete translation]

Card 2/2

RADOMYSEL'SKIY, I.D.; PECHENTKOVSKIY, Ye.L.

Automatic die for two-layer compaction. Porosh.met. 1 no.6:
85-89 N-D '61. (MIRA 13:5)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Dies (Metalworking)) (Powder metallurgy)

RADOMYSEL'SKIY, I.D.; LERNER, Yu.N.; PECHENTKOVSKIY, Ye.L.

Automatic die for the molding of flanged bushings. Porosh.met.
2 no.1:75-79 Ja-F '62. (MIRA 15:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Dies (Metalworking)) (Powder metallurgy)

KLIMENKO, V.N.; RADOMYSEL'SKIY, I.D.; DORF, Z.P.

Department for the manufacture of ceramic-metal instrument
parts. Porosh.met. 2 no.1:80-87 Ja-F '62. (MIPA 15:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Instrument manufacture) (Ceramic metals)

RADOMYSEL'SKIY, I.D.; NIKISHOV, I.S.; PSHEKOVA, V.P.; SMOLYANKIN, A.B.

Investigating the process of grinding reduced iron sponge and developing a procedure for obtaining iron powders of varying bulk weight. Porosh.met. 2 no.5:51-54 S-0 '62. (MIRA 15:11)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Powder metallurgy)

PHASE I BOOK EXPLOITATION

SOV/6508

Vinogradov, Gleb Andreyevich and Izrail' Davidovich Radomysel'skiy
Pressovaniye i prokatka metallokeramicheskikh materialov
(Compacting and Rolling of Metal Powders) Moscow, Mashgiz,
1963. 198 p. 5000 copies printed.

Reviewer: G. V. Samsonov, Corresponding Member, Academy of
Sciences of the USSR; Ed.: Yu. P. Pilipenko; Tech. Ed.: M. S.
Gornostaypol'skaya; Chief Ed.: Southern Division, Mashgiz;
V. K. Serdyuk, Engineer.

PURPOSE: This book is intended for engineering personnel of
machine-building and instrument-making plants and scientific
and planning organizations.

COVERAGE: The book describes the process of compacting and rolling
metal powders. Designs of dies and technical specifications for

Card 1/¹/₅

S/226/63/000/001/013/016
E193/E383

AUTHORS: Radomysel'skiy, I.D. and Pechentkovskiy, Ye.L.
TITLE: A stationary press tool for sizing flanged bushes
by [plastic-deformation in] compression
PERIODICAL: Poroshkovaya metallurgiya, no. 1, 1963, 83 - 92
TEXT: A detailed description is given of the design and
operation of two variants of a press tool for sizing the internal
and external diameters of flanged bushes. The design of both
variants is based on the application of split dies with an
external taper of 15° . The main features of the tool are demon-
strated in Fig. 2, showing 1 - washer, 2 - bottom plate, 3 - spring
of the guiding head, 4 - rod, 5 - guide bush, 6 - guide column,
7 - press-tool table, 8 - rod, 9 - levelling disc spring,
10 - levelling disc, 11 - split-wedge die, 12 - bottom plunger,
13 - spring, 14 - rod, 15 - upper plate, 16 - lock key, 17 - rod,
18 - side rod, 19 - the part to be sized. 20 - die spring,
21 - mandrel, 22 - covered plate, 23 - spacer, 24 - upper
plunger, 25 - guiding head, 26 - plunger spring, 27 - bushing,
28 - press frame, 29 - middle plate. The method of adapting the
Card 1/17

S/226/65/000/001/013/016
E193/E383

A stationary press tool

tool for fully-automated operation is also described.
There are 6 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh
splavov AN USSR (Institute of Powder Metallurgy
and Special Alloys of the AS UkrSSR)

SUBMITTED: March 24, 1962

Card 2/12

SAL'NIKOV, Georgiy Iavlovich, inzh.; DIDKOVSKIY, P.V., inzh., retsenzent;
DOMDIK, I.G., inzh., retsenzent; ZAKHARENKO, I.P., kand. tekhn.
nauk, retsenzent; ZEYGERMAKHER, R.S., inzh., retsenzent;
KAMENICHNYY, I.S., inzh., retsenzent; MITSKEVICH, Z.A., kand.
khim. nauk, retsenzent; NEVSKIY, B.N., inzh., retsenzent;
RADOMYSEL'SKIY, I.D., kand. tekhn. nauk, retsenzent; CHEKURNA,
M.G., inzh., red.izd-va; SHAFETA, S.M., tekhn. red.

[Brief handbook for mechanical engineers] Kratkii spravochnik
mashinostroitelia. Kiev, Gostekhizdat USSR, 1963. 542 p.
(MIRA 17:2)

ZBARAZSKIY, S.G.; RADOMYSEL'SKIY, I.D.

Automatic four-cavity die for pressing smooth bushings. Porosh.
met. 3 no.3:104-109 My-Je '63. (MIRA 17:3)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.

RADOMYSEL'SKIY, I.D.; SERDYUK, G.G.

Equipment of 5 m³ output per hour for the manufacture of
protective atmospheres from ammonia. Porosh. met. 3 no.4:
97-100 J1-Ag '63. (MIRA 16:10)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Gas ~~producers~~) (Protective atmospheres)

ACCESSION NR: AP4029204

S/0226/64/000/002/0032/0019

AUTHOR: Boyko, P. A.; Gryaznov, B. A.; Dubinin, V. P.; Klimenko, V. N.; Kuz'menko, V. A.; Osasyuk, V. V.; Radomy'sel'skiy, I. D.; Rudenko, V. N.

NOTE: Investigation of the properties of N32D4 high-alloy nickel-copper powder-metal steel

SOURCE: Poroshkovaya metallurgiya, no. 2, 1964, 32-39

TOPIC TAGS: N32D4 steel, high alloy steel, nickel copper steel, powder metal steel, copper containing alloy, nickel containing alloy

ABSTRACT: The authors investigate subject properties manufactured by two technological variations. It was shown that the higher pressures of the first pressing and temperature of the first sintering raises the density of the manufactured samples only slightly and has little affect on the strength characteristics in static tests. These results are presented in tables and graphs. In dynamic tests (resiliency, ultimate strength) there is a considerable decrease in the strength of the samples manufactured by the second technological variation which is associated with an increased sensitivity of the dynamic strength characteristics of porosity micro-heterogeneity in composition which is higher in the samples subjected to a first

/2

ACCESSION NR: AP4029204

sintering at low temperature. Orig. art. has: 8 figures and 2 tables.

ASSOCIATION: Institut problem materialovedeniya AN SSSR (Institute of Material Behavior Problems, AN SSSR)

SUBMITTED: 13Sep63

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 005

OTHER: 001

L 8671-65 EWT(m)/[REDACTED] EWP(b)/T P2-4 ASD(m)-3/BSB MFW/JD/MB

ACCESSION NR: AP4044912

8/0226/64/000/004/0065/0075

AUTHOR: Zhornyak, A.F., Radomy*sel'skiy, I.D.

TITLE: Characteristic features of the hardening of high density sintered steel

SOURCE: Poroshkovaya metallurgiya, no. 4, 1964, 65-75

TOPIC TAGS: powder metallurgy, sintered steel, sintered steel heat treatment, sintered steel cementation, sintered steel quenching, sintered steel hardening

ABSTRACT: During cementation of sintered steel, its porosity improves the diffusion, but during hardening the porosity decreases the heat transmission and consequently the depth of the hardened layer. When sintered steel is hardened in air the outer layer is oxidized. Therefore, sintered steel is generally hardened either in a protective atmosphere or by induction. Hydrogen, converted natural gas and other gases are used as the protective medium, but these promote decarburization. The best protection is a mixture of nitrogen with hydrogen and carbon dioxide. The present paper describes experiments with high density steels (7.2-7.3 g/cc) prepared from PZh2M2 iron powder, but the results of the tests are applicable to other sintered steels. The nitrogen used as the protective atmosphere was passed through charcoal heated to 1273K to remove O₂ and water. Decarburization and surface oxidation were not observed, and the procedure was just as safe for the

Card 1/5

L 8671-65

ACCESSION NR: AP4044912

2

operator as the usual methods of heat treatment. The steel was quenched in water, in saline, in a stream of water or in oil, and was tempered in oil or air at 423-473K for 1-1.5 hours. The following problems were investigated: influence of the cooling rate on the microhardness and structure of high density cemented parts, the causes and conditions of formation of soft spots, methods for preventing soft spots, as well as methods for quenching and tempering high-density cemented iron powder parts of high strength. The effects of heat treatment on hardness are shown in Figs. 1 and 2 of the Enclosure. The experiments revealed three types of soft spots. The first type was caused by defects during the pressing operation. These appeared at the surface of the parts, being caused directly by porosity and by the effect of porosity on heat conduction and hardening. The second type of soft spots was caused by formation of a troostite structure. Rapid motion of the part in water during quenching completely eliminates soft spots of this type. Troostite spots are hardening defects and may be eliminated by repeated hardening. The third type of soft spots have an austenitic structure, consisting of large martensite needles + austenite. These defects may also be eliminated by repeated low-temperature tempering, since they are also hardening defects. For high-density sintered steel parts the following with hydrogen and carbon dioxide. The present paper describes experiments with high density steels (7.2-7.3 g/cc) prepared from P.S.K.M. iron powder. But the results of the test are applicable to other sintered steels. The nitrogen used in the protective atmosphere Card 2/5 obtained through high vacuum heating to 1700°C to remove O₂ and water. The atmosphere

L 8671-65

ACCESSION NR: AP4044912

heat treatment procedure is recommended: heating to 1073-1093K in a protective medium followed by quenching in a stream of water; low temperature tempering at 433-453K for 1.5 hours with heating in air or oil. As a result, a Rockwell hardness of 50-60 can be reached. Orig. art. has: 8 figures and 3 tables.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Materials Science Problems. AN UkrSSR)

SUBMITTED: 08Jun63

ENCL: 02

SUB CODE: MM

NO REF SOV: 007

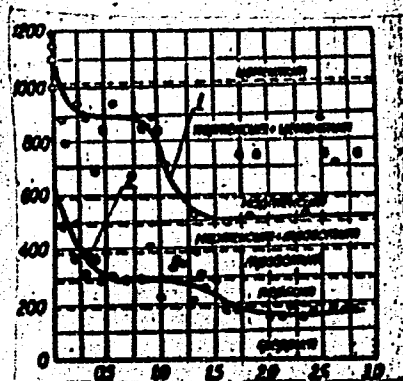
OTHER: 004

Card 3/5

E 8671-65

ACCESSION NR: AP4044912

ENCLOSURE: 01



cementite

martensite plus
cementite

martensite
martensite plus troostite
troostite
perlite

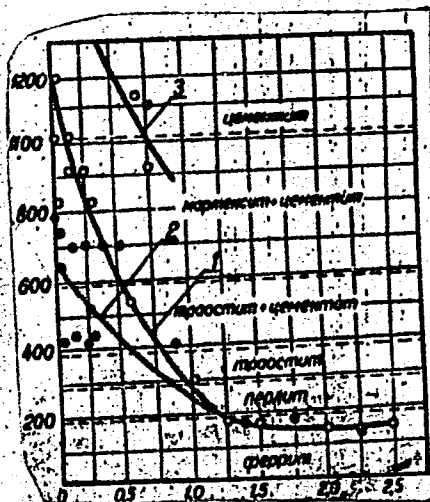
ferrite

Fig. 1. Effect of the cooling rate on microhardness of the hardened structure according to depth: 1 - cementation of 1223K, 8 hrs., quenched in a stream of water; 2 - cementation at 1223K, 7 hrs., quenched in oil. Ordinate = microhardness; abscissa = distance from the surface in mm

Card 4/5

L 8671-65
ACCESSION NR: AP4044912

ENCLOSURE: 02



cementite
martensite plus cementite
troostite plus cementite
troostite
perlite
ferrite

Fig. 2. Distribution of microhardness in the hardened structure with depth within and outside of the area of a troostite spot (load = 49 sthenes): 1 - microhardness of the well-hardened layer; 2 - microhardness of the layer in the troostite spot; 3 - microhardness of individual cementite inclusions. Ordinate = microhardness; Card 5/5 abscissa = distance from the surface in mm

IL'YEV, V.I.; FILIMONENKO, P.P.; PADOMYSL'SKIY, I.D.; FRANTSEVICH, I.N.

Industrial unit for the reduction of scale by a combined
method. Porosh. met. 4 no.6.89-95 N.D. '64. (MIRA 13:3)

I. Yuznergometallurgprom i Institut problem materialovedeniya
AN UkrSSR.

L 57730-65 BXP/EWP(e)/EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/
EWA(c) Pf-4 IJP(c) MJW/JD/JG

ACCESSION NR: AR5015167

UR/0137/65/000/005/0037/0037

SOURCE: Ref. zh. Metallurgiya, Abs. 56223

AUTHOR: Klimentenko, V. N.; Konchakovskaya, L. D.; Napara-Volgina, S. G.;
Radomysel'skiy, I. D.

TITLE: Some principles in the alloying of construction materials based on iron powder with chromium and carbon

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii.
Yerevan, 1964, 297-303

TOPIC TAGS: metal ceramic material, powder metal, steel, alloying, construction material, iron, chromium, chromizing, carbon, antifriction alloy, wear resistant alloy/ 40Kh steel, 30KhGT steel

TRANSLATION: The strength of low alloy metalloceramic construction steels types 40Kh and 30KhGT, produced by the hydride calcium method, is 1.5-2 times greater than that of unalloyed metalloceramic steels. Type 40Kh metalloceramic steel can be produced by mixing iron powder and chromium bearing additives - iron-chromium or iron powder which has been chromized by the diffusion method. Diffusion

Card 1/2

L 57730-65

ACCESSION NR: AR5015167

2

chromizing is done in a solid charge (a mixture of chromium powder with a particle size less than 0.25 mm, calcined alumina, and NH_4Cl). The chromized powder contains 5-35% chromium uniformly distributed over its volume. A metallographic investigation showed that samples made from a mixture of iron powder and chromized powder containing 17.6% chromium made by pressing the mixture under a pressure of 6.5-7 tons/cm² and sintering the briquets at 1200° for 3 hrs in a hydrogen atmosphere had a more uniform distribution of the chromium. Introduction of chromium in the form of Cr_7C_3 and subsequent alloying of the metalloceramic steel with carbon introduced with cast iron powder improves the antifriction characteristics of the metalloceramic steel due to the creation of a heterogeneous structure within the limits of the microvolumes. Rotary pump stators made from such a metalloceramic steel had a considerably higher wear resistance compared to mass produced stators made of hardened ShKh15 steel. V. Kvin.

SUB CODE: MM

ENCL: 00

dlp
Card 2/2

APININDKAYA, L.M.; FADOMYSILICHY, I.D.

Chemical mixed sorbing of porous, iron-based ceramic material. *Poros.*
Izv. Akad. Nauk, 5 no.5:39-45 Ky '65. (NIS: 16.6)

1. Institut problem materialovedeniya AN UkrSSR.

RAPOMYDENLORIT, I.D.; VLASYUK, R.Z.

Developing standard methods for testing the combustibility
of iron powders. Porosh. met. 5 no.9:22-27 S '65.

(MIRA 18:9)

1. Institut problem materialovedeniya AN UkrSSR.

L 65035-55 EWP(e)/EWT(m)/EWP(i)/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5020766

UR/0226/65/000/008/0012/0018

AUTHOR: Radomysel'skiy, I. D.; Napara-Volgina, S. G.

TITLE: Production of chromium-alloyed iron powder by cementation in solid chromium-containing packs

SOURCE: Poroshkovaya metallurgiya, no. 8, 1965, 12-18

TOPIC TAGS: iron powder, chromium coated powder, powder coating, chromium steel, steel powder iron alloy, chromium containing alloy, alloy powder

ABSTRACT: Experiments have been conducted to obtain iron powder with a predetermined, uniformly distributed, chromium content (from 5 to 30%). Chromizing was done at 1223-1373K in a metallic container. The chromizing charge consisted of a mixture of chromium powder with particles less than 0.25 mm, alumina, and ammonium chloride. The experiments showed that to obtain a uniform distribution of chromium through the whole layer of the iron powder, even at a minimum economically useful layer thickness of 15 mm, a volatile loosening agent (ammonium chloride or ammonium) had to be added to the iron powder. Each of the agents was equally effective in improving the uniformity of chromium distribution in the sponge, but the use of ammonium chloride made it possible to obtain a sponge with a higher chromium content. The optimum a-

Card 1/2

I 65039-65

ACCESSION NR: AP5020766

3

mount of loosening agent was 25 wt%, whereupon a sponge with a chromium content of 33.8% was obtained. Decreasing the content of loosening agent to 10 and 5 wt% decreased the chromium content in the sponge to 25.6 and 22.9%, respectively. With a higher content, a friable porous sponge containing residua of the chromizing mixture was formed. At a constant thickness of the iron powder layer, the chromium content in it increased with a longer exposure time. The content of chromium in iron powders also can be controlled by controlling the temperature of chromizing. For example, chromizing in a mixture containing 20% Cr for 4 hr at 1223, 1273, 1323, and 1373K yielded iron powders with a chromium content of 13.3, 18.4, 22.4, and 26.6%, respectively. Chromium-poor mixtures containing 5-20% chromium yielded the best results. The use of such mixtures and combination of various chromizing temperatures, exposure time, and chromium content in the loosening agent powder makes it possible to obtain various chromium contents in the chromized iron powder. Orig. art. has: 3 figures and 1 table. [MS]

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of the Problems of the Science of Materials, AN UkrSSR)

SUBMITTED: 27May64

ENCL: 00

SUB CODE: MM

NO REF SQV: 007

OTHER: 001

ATD PRESS: 4082

Card 2/2mm

(N) L 13265-66 EWP(e)/EWT(m)/EWP(w)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(z)/

ACC NR: AP6001479 EWP(b)/ETC(m) JD/ SOURCE CODE: UR/0226/65/000/012/0083/0092
WW/WB/RM/WH

AUTHOR: Radomysel'skiy, I. D.; Shcherban', N. I.

ORG: Institute of Materials Research, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Uses of glass in powder metallurgy (a survey)

SOURCE: Poroshkovaya metallurgiya, no. 12, 1965, 83-92

TOPIC TAGS: glass property, glass to metal seal, powder metallurgy, powder metal sintering, DURABILITY, CORROSION RESISTANCE

ABSTRACT: Basic information on the nature of vitreous state, properties of glass and processes of interaction between metals and molten glass is presented. In particular, the viscosity and chemical resistance of glass are highly useful qualities in glass-metal materials. An adequate degree of wetting of a metal surface by molten glass can be assured if an oxide film exists on the metal surface and if the melting point of the metal exceeds the soldering temperature. Using glass as a protective medium in metal furnaces makes it possible to sharply reduce the wastage due to oxidation, since the layer of molten glass floating on the surface of a compact or sufficiently dense powdered-metal material in the sintering furnace shuts off any access of air or other gases, i.e. this process is as effective as vacuum heating. Moreover then the sintered

Card 1/2

L 13265-66

ACC NR: AP6001479

products have a lustrous surface, since the molten glass removes the oxide film and contaminations from the surface of the products. In addition, broken glass and other wastes of glass production can thus be usefully utilized. As for the other field in which glass can be utilized in powder metallurgy, namely, the production of glass-metal materials, the sintering of porous metal powders in molten glass of the proper viscosity at the proper temperature results in processes of impregnation of the pores by the glass and yields glass-metal alloys with comparatively high properties: high mechanical strength, corrosion resistance, wear resistance, scaling resistance, and high electrotechnical properties. Considering the current state of powder metallurgy and glass technology, the following principal ranges of application of glass in powder metallurgy may be outlined: a) sintering of compact powdered-metal materials and heating of compact metals under a layer of molten glass without employing a protective atmosphere; b) impregnation of porous billets with glass in order to obtain strong, easily processed structural powdered-metal materials with high wear and corrosion resistance; c) impregnation of porous billets in order to develop new electrotechnical materials; d) sintering and impregnation of porous sheet metal in order to obtain glass-metal sheets with special properties; e) development of glass-metal fiber with high properties and corrosion and wear resistance. Orig. art. has: 1 figure, 4 tables.

11

SUB CODE: 11/ SUBM DATE: 28Mar65/ ORIG REF: 011/ OTH REF: 005

Card 2/2

L 20252-66 EWP(e)/EWT(m)/EWP(t)/EWP(k) JD/WB
ACC NR: AP5013250 SOURCE CODE: UR/0226/65/000/005/0039/0045

AUTHOR: Apininskaya, L. M.; Radomysel'skiy, I. D.

ORG: Institute of Problems of the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Chemical nickel-plating of porous sintered parts on an iron base

SOURCE: Poroshkovaya metallurgiya, no. 5, 1965, 39-45

TOPIC TAGS: ~~iron-base alloy~~, nickel plating, alkaline earth oxide, porous metal, radical polymerization, sintered metal, corrosion

ABSTRACT: It was found that nickel plating of sintered parts cannot be carried out in alkaline solutions. The best criteria were obtained on nickel plating in acid solutions (pH of medium, 5-5.2). To obtain a nickel layer 20-25 μ thick, having a stability of 7 hours and higher in 3% table salt solution, it is necessary to carry a two-stage process. To avoid corrosion of the inner surface of the part, it is necessary to impregnate with GKZh-94 and to carry out polymerization before applying a coating on the pores. The nickel plating solution is replaced by a new one every 5-6 working cycles, when it contains 50-60 g/l of phosphites. Orig. art. has: 1 figure and 4 tables. [Based on author's abstract.]

Powder metallurgy

SUB CODE: 11/3/SUBM DATE: 05Nov64/ ORIG REF: 007/ OTH REF: 001/

L 23588-66 EWP(s)/EWT(m)/T/EWP(t) IJP(c) JD/WB
ACC NR: AP6012767 SOURCE CODE: UR/0226/66/000/004/0007/0010

AUTHOR: Apininskaya, L. M.; Radomysel'skiy, I. D. ³⁷_B

ORG: Institute of Problems of Materials Science, AN UkrSSR (Institut problem materialovedeniya AN USSR)

TITLE: Phosphating of sintered parts with preliminary preparation

SOURCE: Poroshkovaya metallurgiya, no. 4, 1966, 7-10

TOPIC TAGS: phosphating, corrosion resistance, sintering, porosity

ABSTRACT: A procedure is described for phosphating porous, sintered, structural, iron-base parts. A detailed analysis is presented of the effect of the processing conditions (time in phosphating solution and temperature) on the quality of the phosphate film. The corrosion resistance of the phosphate film is investigated, depending on the form of preliminary properation: processing with steam or impregnation with GKZh-94. Recommendations are given for protection against internal and external corrosion of sintered structural parts with 10 to 30% porosity by means of phosphate films. Orig. art. has: 3 tables. [Based on author's abstract] Powder metals ¹⁸ [AM]

SUB CODE: 11, 13/ SUBM DATE: 04Sep65/ ORIG REF: 006/ OTH REF: 002₂

Card 1/1 BK

L 23936-66 EWT(ó) IJP(c)

ACC NR: AP6014958

SOURCE CODE: UR/0039/65/066/003/0321/0343

AUTHOR: Ramm, A. G. (Leningrad) 17

ORG: none 13

TITLE: Spectral properties of the Schrodinger operator in regions with an infinite boundary

SOURCE: Matematicheskiiy sbornik, v. 66, no. 3, 1965, 321-343

TOPIC TAGS: boundary value problem, Schrodinger equation, asymptotic property

ABSTRACT: This paper investigates the resolvent kernel $H(x,y,k)$ of the Schrodinger operator in regions with an infinite boundary. In the first section of the paper some propositions are set up as to the behavior of the solution of the boundary value problem for the Schrodinger equation. It follows from the calculations that in the class of infinite regions under discussion the radiation condition gives a unique solution of the Schrodinger equation which satisfies the zero boundary conditions. The second section sets up the resolvent kernel of the Schrodinger operator in the Dirichlet problem for a region D , the boundary of which approaches the boundary of the angle asymptotically. The third section discusses the limiting amplitude principle for the Schrodinger operator in the class of regions discussed in section two. Orig. art. has: 3 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 04Nov63 / ORIG REF: 011 / OTH REF: 001

Card 1/1 ✓

UDC: 517.948.35 2

L 27711-66 EWP(e)/EWT(m) WH

ACC NR: AP6015351 (N)

SOURCE: CODE: UR/0226/66/000/005/0041/0048

AUTHOR: Beloivan, A. F.; Isakhanov, G. V.; Radomysel'skiy, I. D.; Shcherban', N. I.

ORG: Institute of Material Study, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Mechanical properties of sintered metal-glass material ¹⁵

SOURCE: Poroshkovaya metallurgiya, no. 5, 1966, 41-48

TOPIC TAGS: composite material, metal glass material, sintered material, material property

ABSTRACT: The mechanical properties of sintered metal-glass materials made of PZh-2M (GOST9849-61) iron powder mixed with 0.5, 1.0, 2.0, 3.0, 5.0, 7.0, or 12% glass have been investigated. Green compacts obtained under 52 kg/mm² pressure were sintered at 600—1200C for 1—2 hr. The strength of sintered material was found to depend primarily on the strength of the metal framework. However, glass intensifies the sintering and shrinkage, increases the density, and thus improves the mechanical properties of the metal-glass composites. The strength of the metal framework depends upon the diffusion of particles forming the framework. An increase in the sintering temperature up to 850C intensifies the shrinkage and, as a result, the material strength. At 900—1050C, the shrinkage and the strength decrease to a

Card 1/2

L 27711-66

ACC NR: AP6015351

minimum, which is explained by the α -to- γ transformation. With a further increase in sintering temperature, the shrinkage and the strength increase again. Orig. art. has: 7 figures and 6 formulas. [ND]

SUB CODE: 11/ SUBM DATE: 29Nov65/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS:

5001

Card 2/2 BKG

ACC NR: AR6005801

SOURCE CODE: UR/9137/65/000/010/G037/G037

AUTHOR: Radomysel'skiy, I. D.

TITLE: Status of the fabrication of powder-metal structural elements

SOURCE: Ref. zh. Metallurgiya, Abs. 10G258

REF SOURCE: Sb. Poroshk. metallurgiya i metalloobrabotka. Yerevan, 1965, 112-131

TOPIC TAGS: powder metal, fabricated structural metal, powder metal compaction, powder metal sintering

ABSTRACT: The following basic problems of the fabrication of powder-metal structural elements are considered: 1) requirements for the metal powders used in the fabrication of structural elements; 2) methods of fabricating high-density parts; 3) methods of reducing the forming pressure; 4) methods of fabricating structural elements from powders of carbon steels; 5) methods of fabricating structural elements from powders of alloy steels. A high bulk density and flow rate of powders, which are assured by rolling the powders, are prerequisites for obtaining structural products with high qualities. Of the methods of fabricating high-density

UDC: 669.018.29:621.762

Card 1/2

ACC NR AR66.001

structural products the following are described: double cold pressing and sintering, hot pressing, infiltration with liquid Me, sintering with liquid phase. The advantages and disadvantages of each method are pointed out. The development of techniques for the fabrication of structural powder-metal products based on Fe powder + 1% graphite or 20% cast-iron powder is described. The effectiveness of the thermal and chemothermal treatment of these products is demonstrated. Certain methods of fabricating structural elements from treated powders are described. Data are presented on the economics of the production of structural materials by the methods of powder metallurgy as compared with the standard production methods. Bibliography of 8 titles. A. Epik. [Translation of abstract]

SUB CODE: 11, 13

Card 2/5

I 1500-4 EWP(c)/EWP(m)/EWP(t)/ETL/ENF(k) IJR(c) JD/JG

ACC NR: AP6025932 (N) SOURCE CODE: UR/0226/66/000/007/0010/0014

AUTHOR: Radomysel'skiy, I. D.; Napara-Volgina, S. G. 31
B

ORG: Institute of Problems in the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Investigation of conditions for producing chrome-alloyed ²⁷iron powder by diffusion saturation from solid ²⁷chromium-containing charges (report 2) 4

SOURCE: Poroshkovaya metallurgiya, no. 7, 1966, 10-14

TOPIC TAGS: iron powder, chromium containing alloy, powder metal production

ABSTRACT: This paper is a continuation of a study on the use of diffusion saturation for producing uniformly alloyed iron-chromium powders. The authors consider the effect which charge composition and alloying temperature have on chromium concentration in the powder particles. Charges containing 5, 10, 20, 30, 40 and 50% chromium powder were used for alloying iron powder at temperatures of 1073, 1173, 1273, 1373 and 1473°K. Holding time in all tests was 4 hours and the volumetric ratio of alloying powder to iron powder was held constant with a definite concentration of scarifier in the powder. The results are tabulated and graphed. An analysis of these data shows that iron-chromium powders with a wide range of compositions may be produced at a tempera-

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ACC NR: AP6025932

ture of 1373°K using charges containing 5-50% chromium. However, since a denser sponge is produced at this temperature it is preferable in some cases to use lower alloying temperatures, particularly for producing powders with a low chromium concentration. Alloying at 1473°K is not recommended since the sponge is extremely dense and nonhomogeneous. Orig. art. has: 4 figures, 1 table.

SUB CODE: 11/ SUBM DATE: 11Feb66/ ORIG REF: 001

Card 2/2 mjs

L 09066-67 EWP(e)/EWT(m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/JG/DJ/WH
 ACC NR: AP6030609 (A, N) SOURCE CODE: UR/0413/66/000/016/0095/0095

INVENTOR: Rabinovich, L. S.; Sharapov, A. M.; Rubashkin, L. I.; Radomysel'skiy,
 I. D.; Klimenko, V. N.; Konchakovskaya, L. D.; Stepanenko, G. M.; Kanovalov, V. M.

ORG: none

TITLE: Cermet materials. Class 40, No. 185069 [announced by the Institute of
 Material Study, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 16, 1966, 95

TOPIC TAGS: iron, containing material, cast iron, containing material, steel, containing
 material metal ceramic material, cermet

ABSTRACT: This Author Certificate introduces a sintered material containing (for
 better wear resistance) 60-70% iron powder, 20-30% cast iron powder, and 10-12%
 steel powder, such as Kh-30 steel powder. This material is used for extending the
 service life of stators and disks of rotary double-action pumps. [ND]

SUB CODE: 11/ SUBM DATE: 27Jul64/ ATD PRESS: 5077

Card 1/1 nst

UDC: 669.018.25: :621.762.2

ACC NR: AP6036894

(A)

SOURCE CODE: UR/0226/66/000/011/0017/0022

AUTHOR: Radomysel'skiy I. D.; Shcherban', N. I.

ORG: Institute of Problems of Material Science, AN UkrSSR (Institut problem materialovedeniye AN UkrSSR)

TITLE: Investigation of sintering of metal-glass materials

SOURCE: Poroshkovaya metalluriya, no. 11, 1966, 17-22

TOPIC TAGS: metal glass material, metal glass material sintering, metal glass material shrinkage, sintered glass, metal sintering

ABSTRACT: The effect of glass content on the shrinkage of sintered metal-glass composites has been investigated. Specimens prepared from PZh2M iron powder (GOST 9849-61) and 0.5 to 12% VVS-type glass on 1 and 7% pyrex glass were sintered at 600—1100C in dry hydrogen for 2 hr. It was found that in the presence of liquid glass, the volume shrinkage of the metal-glass composites increases with increased glass content, i.e. glass activates the shrinkage process. Shrinkage also increases with an increase in sintering temperature, except for the temperature range between 850 and 950C, where the shrinkage drops due to the iron phase transformation, which takes place at this temperature range. The ratio of axial (A) and radial (R) shrinkage increases with an increase in glass content and at 12 mas % of glass, A/R equalled 3.3. It was also found that Pyrex acid glass, despite its high viscosity, contributes

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ACC NR: AP6036894

to a higher shrinkage of ferroglass materials than does VVC basic glass due to the greater wettability of basic oxides. Orig. art. has: 4 figures and 1 tables. [TD]

SUB CODE: 11/ SUBM DATE: 05Apr66/ ORIG REF: 011/ OTH REF: 001/ ATD PRESS: 5109

Card 2/2

ACC NR: AP7004391

SOURCE CODE: UR/0226/67/000/001/0014/0019

AUTHOR: Zhornyak, A. F.; Radomysel'skiy, I. D.

ORG: Institute for Problems in Science of Materials, AN UkrSSR (Institut problem materialovedeniya, AN UkrSSR)

TITLE: Investigation of processes of carburization for sintering of graphitic iron [Presented at the Fifth Scientific Research Conference on Powder Metallurgy held 29 through 31 March 1966 in Kiev]

SOURCE: Poroshkovaya metallurgiya, no. 1, 1967, 14-19

TOPIC TAGS: iron oxide, iron powder, sintering, powder metal sintering, carburization, sintered metal, graphitic iron

ABSTRACT: An investigation has been made of the effect of the degree of oxidation of iron powder on the microstructure and strength characteristics of sintered Fe with 3% graphite material. It was found that raising the FeO content of the iron powder of the charge causes the formation of abnormal transeutectic structures and a sharp decrease in the compression strength of the material. Some reduction of

Card 1/2

RADOMYSEL'SKIY, Mark Il'ich; SHIFRIN, Iosif Abramovich; ZAV'YALOVA,
A.N., red.; GERASIMOVA, Ye.S., tekhn. red.

[Firms are a new form of industrial administration] Firmy -
novaia forma upravleniia proizvodstvom. Moskva, Ekonomizdat,
1963. 123 p. (MIRA 16:12)
(Industrial organization)

ZAYTSEVSKIY, Igor' Yur'yevich; RADOMYSEL'SKIY, Mark Il'ich;
LISOV, V.Ye., red.; TARASOVA, T.K., mlad. red.;
PONOMAREVA, A.A., tekhn. red.

[Analysis of the carrying out of a plan for developing the
local economy and culture of a region] Analiz vypolneniia
plana razvitiia mestnogo khoziaistva i kul'turnogo stroitel'-
stva raiona. Moskva, Ekonomizdat, 1963. 105 p.
(MIRA 16:4)

(Economic policy) (Regional planning)

LISOVICH, Yu.Yu.; RACHKOV, V.I.; RADOMYSSEL'SKIY, M.I.; SHIFRIN, I.A.

Concentration and specialization of the production of wooden
containers. Der. prom. 14 no.6:16 Je '65. (MIRA 18:7)

USSR/Atomic and Molecular Physics - Atomic Physics

D-1

Also Jour : Ref Zhur - Fizika, No 4, 1957, No 8924

Author : Ushpal'se, K.K., Vanagas, V.V., Radomysel'skiy, S.I.,
Yutsis, A.P.

Orig Pub : Liet. TSR mokslu Akad. darbai, Tr. AN Lit SSR, 1956, 58, 11-20

Abstract : The correction coefficient, used in the case of two electrons, is extended to include the case of any number of electrons

$$\bar{g} = (n_1, n_2, \dots, n_N) = \mu_1 + \mu_2 \sum_{j=1}^N n_{1j} + \mu_3 \sum_{i=1}^N n_i$$

where N is the number of electrons, in whose wave function the variables are not completely separated, r_{12} is the distance between the electrons, r_{1j} is the distance between the electron and the nucleus, and μ_i ($i = 1, 2, 3$) are constants. A general expression is obtained for the energy in terms of the radial integrals in the case of any number of equivalent electrons. The values of the coefficient in these integrals are given in the case of any number of equivalent p-electrons.

Numerical results are given for the application of the method of incomplete separation of variables to atoms of the lithium, beryllium, boron, and carbon type in configurations, in which all the electrons are in the two p shell.

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